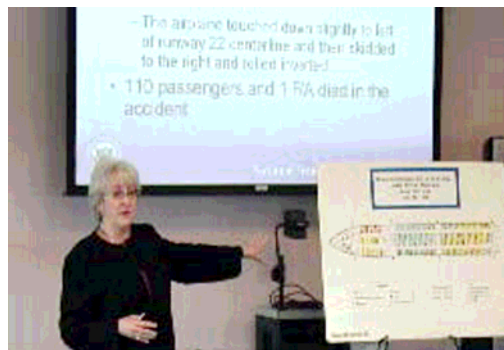




Q & A with Nora Marshall Chief, NTSB Survival Factors

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Your office has released statistics that indicate that the majority of commercial aircraft accidents are survivable. Yet many people believe that almost all aircraft accidents are unsurvivable. Why is there such a discrepancy here between reality and popular perception?

There is a lot more publicity involved in an accident with many fatalities. The public hears about the very dramatic non-survivable accidents that have a lot of media attention, like TWA 800, or ValueJet in the Everglades, or the Swiss Air accident at Peggy's Cove. Since that's what people hear about most often they don't realize that there are many accidents that occur where there are few or no fatalities and few serious injuries. The ones that are less severe just don't get as much publicity.

If a flight attendant injures her foot is that defined as an accident?

The Board's definition of an accident is defined by statute and the public perception about accidents may not match up with what people think is an accident. An event is defined as an accident when there is substantial damage to an aircraft or a serious or greater injury. A turbulence event in which one person breaks a bone becomes an accident, or an airplane that overruns the runway and has substantial damage is an accident. People may not hear about those events very often.

Do those types of smaller incidents make up the majority of accidents as defined by the Board?

In our survivability study we looked at 568 accidents between 1983 and 2000. Of those 568 accidents, 71 of them included at least one fatality. So the great majority of them were not fatal but help us learn a lot about what happens to the occupants.

Your job calls for you to interview survivors of aircraft accidents. What is the purpose of these interviews?

The purpose of our group is to determine how people were injured and to learn as much as we can to reduce injuries or prevent fatalities. We interview survivors because we want to find out what happened to them during an accident. We get a lot of information from survivors, both crewmembers and passengers, about the performance of the emergency equipment or procedures. We also get information about what they did to protect themselves or what caused problems for them.

How important are these interviews to an investigation?

They are very important because we really want to get a good picture of what has occurred throughout the airplane and during the rescue operation. The interview information often helps us understand what happened in different areas of the airplane and it helps us put together the bigger picture. It is like putting together a puzzle. The more pieces you have of the puzzle, the more accurate your picture will be.

Through these interviews, have you found any elements common to all types of aircraft accidents?

No. Every single experience is different because every circumstance is different. Even two individuals on the same airplane are going to have a different experience depending on where they were seated. You have to learn as much as you can from each person you interview.

For those in the aviation industry that may be a party to an NTSB accident investigation, are there a few things that would be helpful for them to remember?

Speaking for the Survival Factors group, we want them to be aware of all the types of information that we collect in the course of an investigation and understand how we use that information to evaluate the occupant survivability issues.

How many types of information are you looking at in a typical investigation?

In our group, we collect information about seats and restraints, fuselage damage, evacuation slides and slide rafts, doors, emergency equipment, emergency lighting, passenger briefings, crew emergency procedures, and other items. We also look at aircraft rescue and firefighting, airport issues, things like how long it took for the fire fighters to respond, if there was a fire how it was fought, disaster preparedness issues like how the airport fire department interacts with surrounding communities if they need mutual aid. We look at the whole emergency response – fire, police and medical.

Has technology had any impact on how an accident scene is documented?

Yes. Things have changed over the years. We now have digital cameras that allow us to take pictures that we can review immediately, while still on scene. We have started to see pictures that passengers and crewmembers have taken with their cell phones. Because of this we may get more actual photo-documentation of a scene before rescuers get there.

So there have been accidents in which images from passengers' cell phone cameras have been used in an investigation?

Yes, and we expect that we'll see more of this as time goes on and as cell phone cameras become more common.

After a participant completes your course, what sort of competencies will they have acquired?

They would be able to work on our group and understand the type of information that we collect. They would understand all the elements that go into evaluating survivability. We are fortunate that we are able to bring in instructors who are experts from government and industry that can provide them with background information about survivability. The students will understand not only what we document, but also why we need that information. For example, they will understand the basic elements of crashworthiness and understand what we look at with crewmember emergency training.

Do you have any other thoughts about survivability that may be of interest to those in the aviation safety community?

I would like people to remember that in order to improve survivability we must provide a factual record of what happens to the occupants during accidents. With a good factual record, we have the ability to analyze an accident and suggest improvements.

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